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July 11, 1997

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JUL 11 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

EX PARTE

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: PR Docket No. 93-61
Automatic Vehicle Monitoring Systems

Dear Mr. Caton:

On behalf of Metricom, Inc., on July 11, 1997, Henry Rivera and I, of this firm, met with Jackie Chorney, Special Assistant to Chairman Hundt, and on July 9, 1997 we met with Suzanne Toller, Legal Advisor to Commissioner Chong and David Siddall, Legal Advisor to Commissioner Ness, to discuss Metricom's position on reconsideration, as set forth in its Petition for Reconsideration filed in the above-referenced proceeding.

At these meetings, Metricom described its business and the development of the Part 15, 902-928 MHz industry in addition to the issues and arguments raised in its Petition. The attached written materials were used in connection with Metricom's presentation at the meeting.

Two copies of this letter, along with the attached materials, are being submitted to the Secretary pursuant to the provisions of § 1.1206(b)(1) and (2) of the Commission's Rules.

Please contact the undersigned if there are any questions in connection with this matter.

Sincerely yours,

Larry S. Solomon

Attachments

cc: Ms. Jackie Chorney
Ms. Suzanne Toller
Mr. David Siddall

No. of Copies rec'd 0+1
List ABCDE

LMS Reconsideration

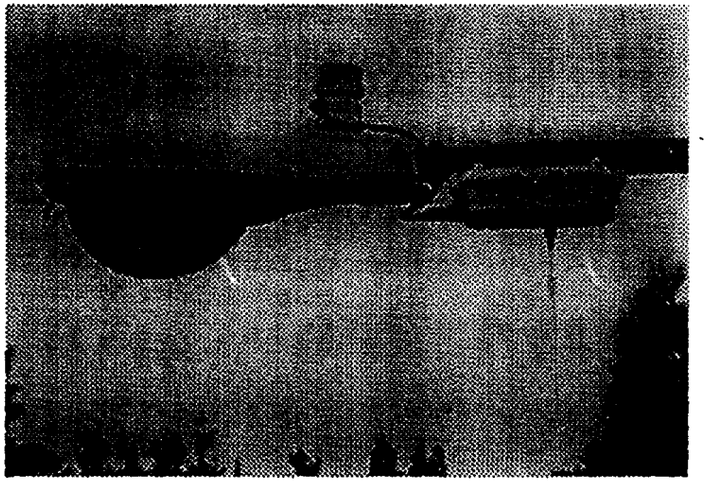
Henry M. Rivera, Esquire

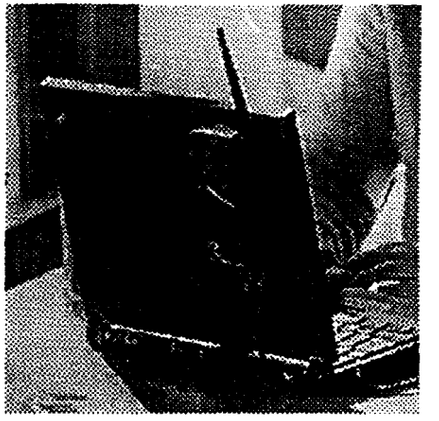
Larry S. Solomon, Esquire

on behalf of
Meticom, Inc.
July 9, 1997

Metricom

Building a National, Wireless, Data Network for Portable & Fixed Computers





Metricom

Metricom Overview

- Public company (MCOM), founded in 1985
  - Headquartered in Silicon Valley
  - 240 employees and consultants
- Emerging wireless data communications service provider
- Thousands of radios operating across US
- Uses unlicensed, shared spectrum
- Part 15 Coalition member

Metricom

Two Divisions

- RICOCHET DIVISION:

  The wireless modem and Internet service

- INDUSTRIAL COMMUNICATIONS DIVISION:

  "One Network" solution for industrial customers

Metricom

- People require connectivity away from the desk
- Phone lines are an inefficient way to send data
- "Busy signal" is a growing problem
- Most wireless access solutions are expensive, slow and complicated

Metricom

Ricochet Facts

Fast: *14.4 to 28.8 kbps to end user*

Affordable: *$29.95 flat monthly service fee*

Compatible: *Plug & play single-source solution*

Transportable: *Connectivity wherever, whenever*

Secure: *Frequency hopping and optional encryption*

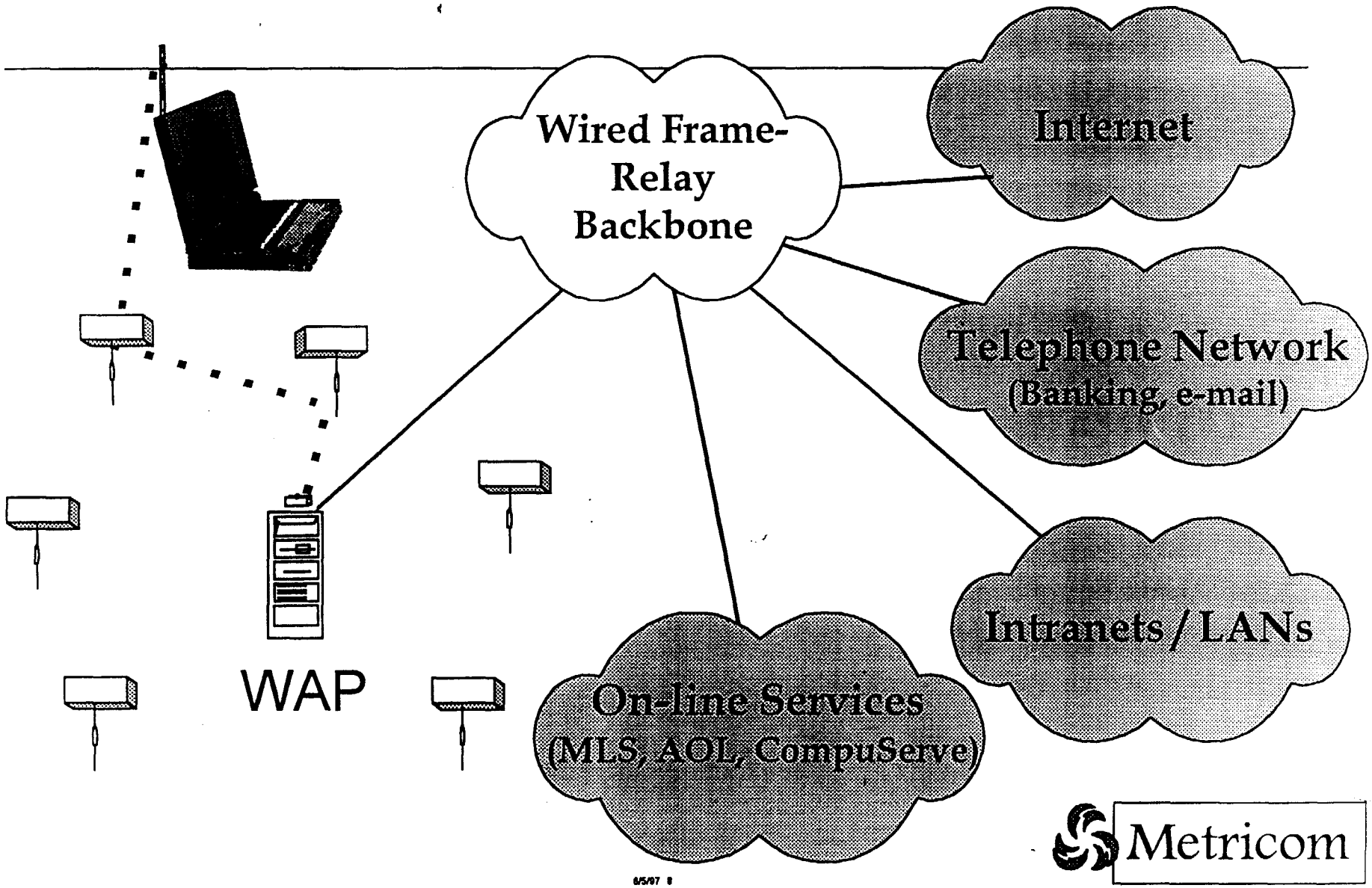
Metricom

Three Target Markets

- Education (K-12 and university)
- Corporate
- Metropolitan (individuals)

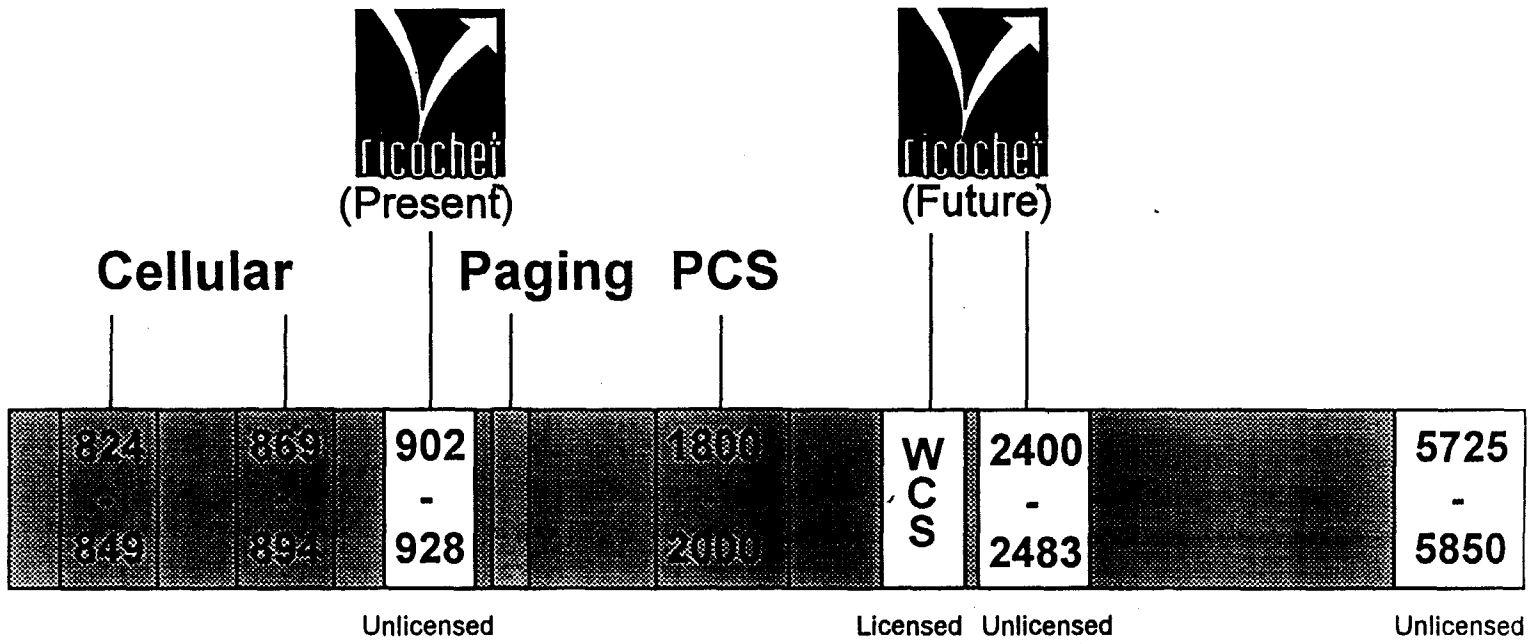
Metricom

Ricochet Takes You Many Places



Metricom

Ricochet Frequencies



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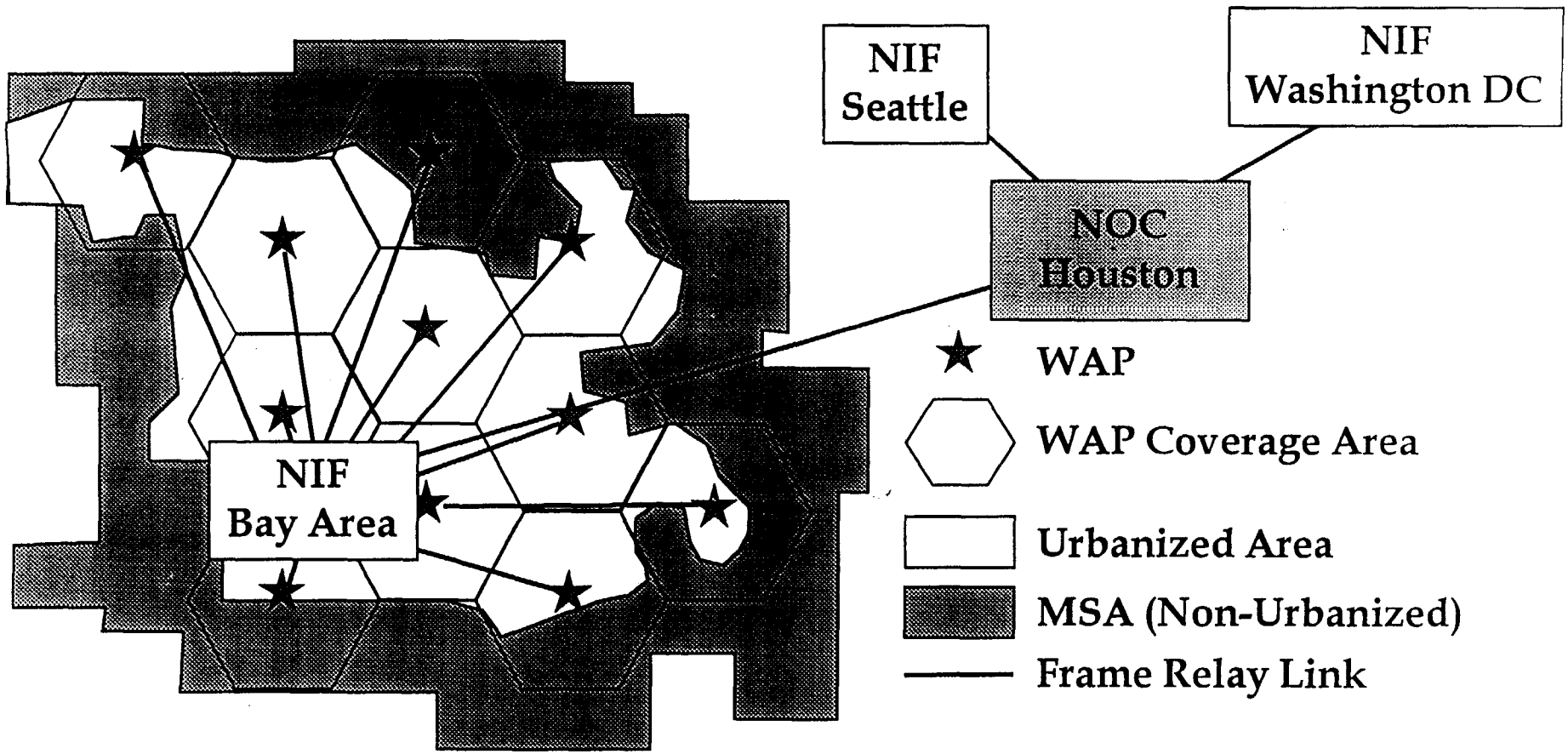
The Network

- 100% digital packet-switched network
- Network radios installed in clusters of 100+
- Wired access points (WAPs) on buildings
- Frequency hopping, spread spectrum
- Proprietary architecture
- 20 patents

Metricom

Clusters Are Interconnected With High-Speed Frame Relay



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Present and Planned Ricochet Coverage

Metropolitan Area Networks

- San Francisco Bay Area (1995)
- Seattle (1996)
- Washington, DC (1996)
- Los Angeles (begin 1997)
- New York (begin 1998)

Major Airports (National, Seattle, SFO, Dulles, BWI, etc.)

Corporate Gateways (Cisco, Sun, etc.)

Universities (Stanford, GWU, Miami, Oregon State, etc.)

Metricom

LMS History

- PFR filed by Teletrak in 1992.
- NPRM issued in 1993.
- Report and Order issued in 1995.
- Order on Reconsideration issued in 1996.
- Dealt with some of the issues raised on reconsideration.
  - Primarily dealt with concerns of grandfathered systems.
- Commission recognized that many reconsideration issues remained to be resolved.

Metricom

LMS Reconsideration

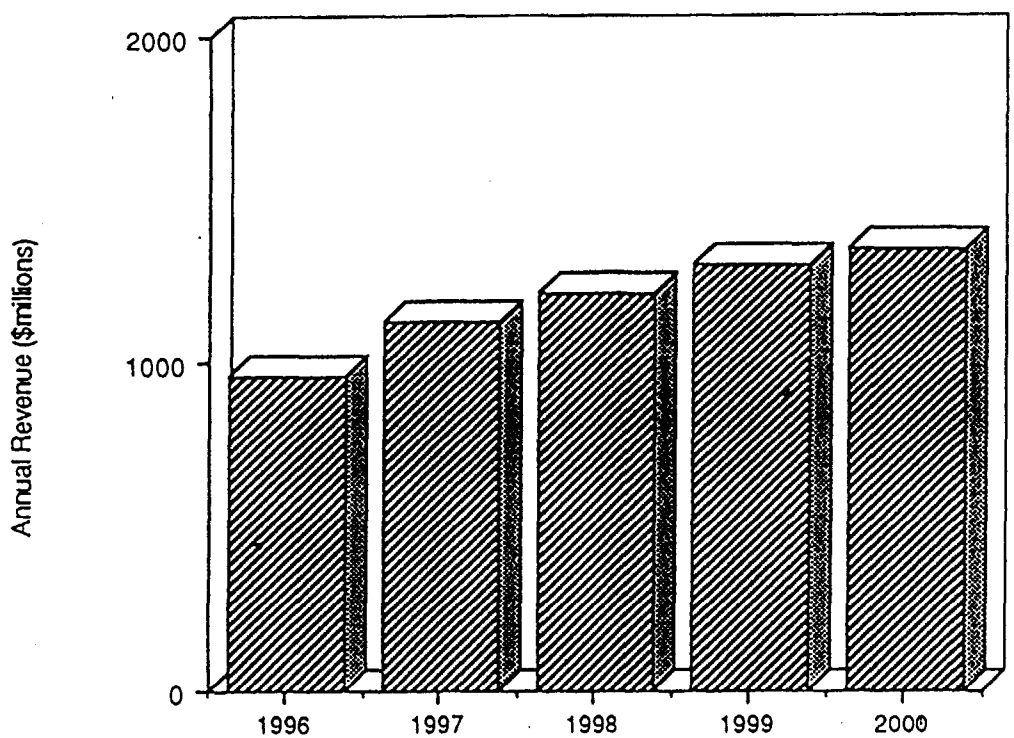
- Authorization of Multilateration-LMS introduced a service not designed for sharing into the 902-928 MHz band and therefore created a threat to Part 15 operations in the band.

- M-LMS receivers are susceptible to interference from other operators in this shared band.

Metricom

Circumstances Have Changed

- The 902-928 MHz unlicensed industry has grown, and continues to grow, significantly



900 Mhz ISM band revenue forecast, 1996 - 2000

Metricom

Educational Uses of Ricochet Have Grown

- The D.C. school district is a prime example of educational use of Ricochet:
  - Malcolm X, the first D.C. school to use Ricochet now employs multiple Ricochet modems
  - Approximately 100 modems currently in use at various schools for Internet access and e-mail
    - This includes 8 modems at 4 schools in exchange for WAP sites
  - 140 modems being shipped will be used for training school system teachers and staff on how to use the Internet
  - The school district plans to purchase additional modems

Metricom

Multilateration LMS Operation

Wideband Multilateration LMS 902-928 MHz Receivers:

- Efficient interference collectors
- Sited to optimize receipt of all in-band signals
- Very sensitive to ALL in-band signals

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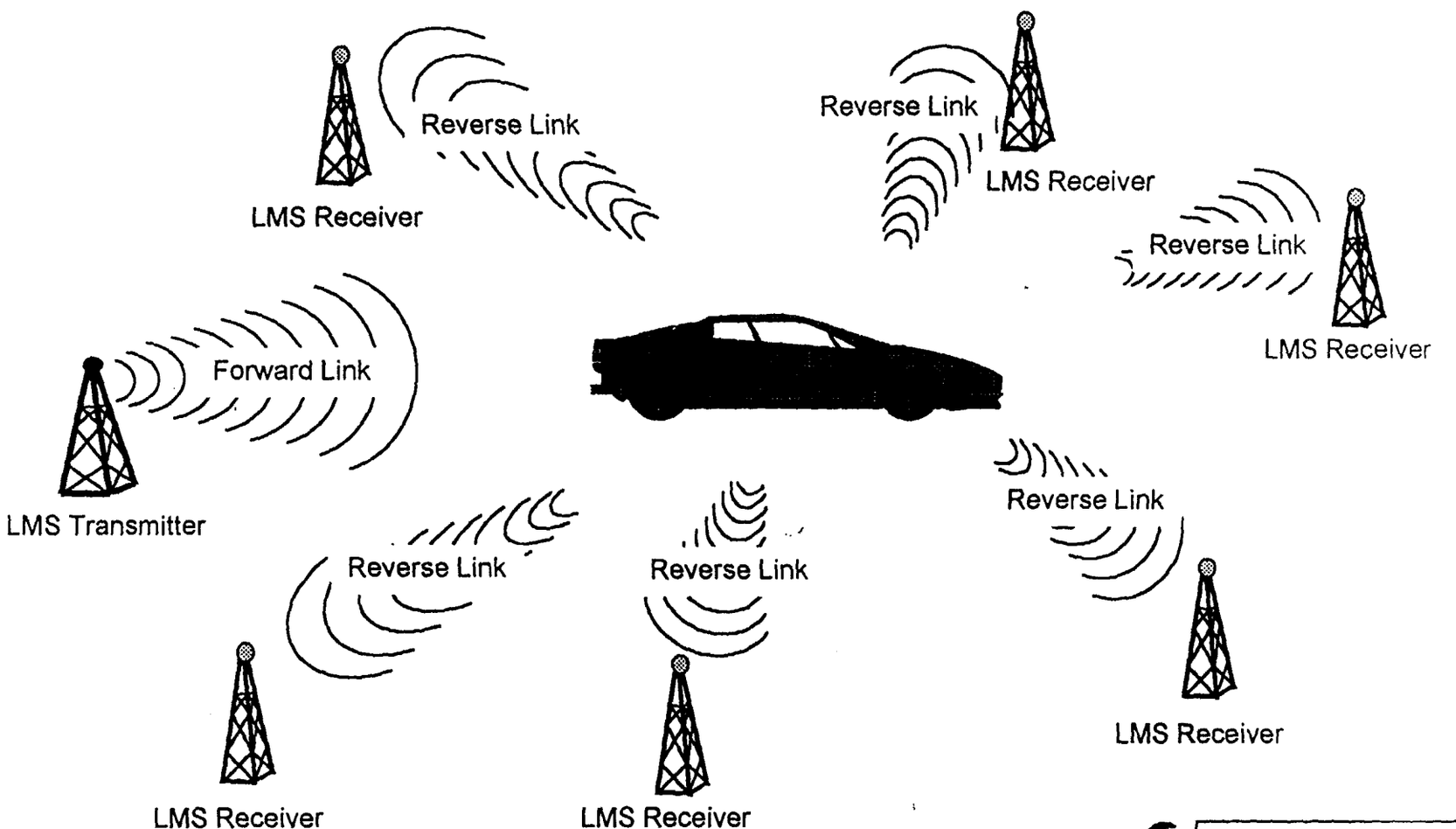
Multilateration LMS System Diagram



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Interference Sources

902-928 MHz Transmitters:

- Many and varied
  - Government and Parts 15, 18, 90, 97
  - Narrow and wideband
  - High-powered
  - Mobile
- Very densely located
- Many owned by consumers
- 902-928 MHz Part 15 industry is large

Metricom

Part 15, 902-928 MHz Unlicensed Devices

- Major Components
  - Cordless Telephones
  - Wireless LANs and WANs
  - Automatic Meter Reading (AMR)
  - Consumer Entertainment (wireless speakers, headphones, etc.)
  - Industrial Automation
  - Alarm, Control and Security Systems
  - Medical Telemetry

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The Operational Problem

Part 15 and LMS can not co-exist as presently proposed without harm to both:

- Part 15 transmissions will interfere with LMS receivers
- Band hierarchy enables LMS to force Part 15 devices to cease operation
- Wideband forward links will interfere with ALL in-band operations.

Metricom

Petition for Reconsideration: Antenna Height

- Antenna height criteria must be deleted.
- Significant issue for Metricom.
  - Radios on pole tops, building tops, water tanks, communications towers.
  - $11 million investment in radios is in jeopardy.
  - Proposed power reduction as a trade-off for increased height will not permit network radios to function in acceptable manner.

Metricom

Petition for Reconsideration: Antenna Height (cont'd)

- New rule manifestly unfair to Metricom.
  - Makes Metricom scapegoat in this proceeding
  - Record is replete with evidence that LMS receivers are extremely fragile and vulnerable to interference.
- Alternatively:
  - Height criteria must be no less than 15 meters and radios at that height must be permitted to operate at full Part 15 ERP.

Metricom

Petition for Reconsideration: Forward Links

- Order is ambiguous regarding whether wideband forward links will be permitted in the band.
  - E.G., Pinpoint type technology.
- No wideband forward links can be allowed in the band.
  - Band jammers.

Metricom